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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,877	01/24/2002	Darryl J. Bomhop	TTU D-0298	5331

7590

07/08/2003

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EXAMINER

CONNOLLY, PATRICK J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,877

Applicant(s)

BORNHOP ET AL.

Examiner

Patrick J Connolly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-4 and 6-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 38 of U.S. Patent No. 6,381,025. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following:

As to claim 1, the limitations recited therein are clearly anticipated by claim 2 in combination with the limitations of claim 1 of U.S. Patent No. 6,381,025. The limitation of "a first rectangular channel formed in said substrate for the reception of a liquid sample to be analyzed" is narrower in scope than that of "a channel formed in said substrate for reception of a liquid sample to be analyzed", and therefore already covered in the patented subject matter.

With further regard to claim 1, claim 2 of U.S. Patent No. 6,381,025 provides for a substrate formed from plastic.

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As to claims 2 and 9, PDMS is a notoriously well-known plastic in the art, and it would have been obvious to one of ordinary skill in the art at the time of invention to use such a material to form the substrate and subsequent channel.

As to claims 3, and 10, it is well known in the art to choose a beam size that is appropriate to the measurement of interest and it would have been obvious to one of ordinary skill in the art at the time of invention to choose a laser beam of an appropriate diameter with respect to the measurement of interest, including a beam diameter of 2 mm or less.

As to claims 4 and 11, it would have been obvious to one of ordinary skill in the art at the time of invention to make the channel width no larger than the diameter of said measurement beam.

As to claim 6, the limitations recited therein are clearly anticipated by claim 38 of U.S. Patent No. 6,381,025. The limitation of "providing a plastic substrate" and "a first rectangular channel" is narrower in scope than that of "providing a substrate having a channel formed therein", and therefore already covered in the patented subject matter.

As to claims 7 and 8, it is well known in the art to measure biochemical functional species with similar interferometric sensor (see for example the description of the prior art in U.S. Patent No. 6,381,025) and it would have been obvious to one of ordinary skill in the art at the time of invention to determine binding characteristics of first and second biochemical species including complimentary strands of DNA, complimentary proteins and antibody antigen pairs with the apparatus of U.S. Patent No. 6,381,025.

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Claims 5 and 12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 38 of U.S. Patent No. 6,381,025 in view of U.S. Patent No. 5,325,170 to Bornhop.

Bornhop teaches a laser-based refractive index detector using backscatter including (see Figure 4b): using two capillaries (66, 68) imbedded in a grooved aluminum block (30). One of these capillaries is used as a reference channel for detection.


It would have been obvious to one of ordinary skill in the art at the time of invention to include a second reference channel for detection and compensation of background noise in the apparatus of U.S. Patent No. 6,381,025.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J Connolly whose telephone number is 703.305.4397. The examiner can normally be reached on 9 am-5.30 pm ... Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703.308.4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703.746.7722 for regular communications and 703.746.7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0956.

pjc 
June 18, 2003



Samuel A. Turner
Primary Examiner